local Committees therein referred to should report to the International Committee.

(35) The Royal Society was requested to undertake the editing, publication, and distribution of a verbatim report of the Proceedings of the Conference.

(36) It was resolved that the *procès verbal* of the Conference be signed by the President and Secretaries.

(37) On the motion of Prof. Armstrong, the thanks of the Conference were accorded to the Society of Antiquaries for the use of their rooms.

(38) On the motion of Prof. Klein, a vote of thanks to Sir John Gorst for presiding over the Conference, and his conduct in the chair, was passed by acclamation.

(39) On the motion of M. Darboux, a vote of thanks was passed to the Royal Society for their work in preparation for the Conference and their cordial reception of the Delegates.

(Signed) John E. Gorst, President.
Henry E. Armstrong
H. La Fontaine
E. Weiss
Secretaries.

## NOTES.

The British Institute of Preventive Medicine, which was founded with the view of establishing in this country a national home for bacteriological work in all its branches, has made considerable progress towards the achievement of this aim during the past few years. The bacteriological laboratories are now fully organised, the serum therapeutics laboratory is on a firm footing, whilst the applications of bacteriology to hygiene are finding full recognition. A further addition has just been made to the departments of the Institute in response to the growing demands of the times. A large laboratory at Chelsea has been assigned to investigation and instruction in technical bacteriology. In this laboratory the agriculturist, the chemist, the brewer, and others will find the instruction provided that they individually require for successfully employing the living agents of fermentation. Investigations will also be undertaken, and it is hoped that the laboratory will become a centre of useful work, and promote the advancement of a line of research of the greatest importance to the industries of the country. We have had hitherto to rely upon the research work of foreign laboratories in this direction. The laboratory has been named the Hansen laboratory, in recognition of the pioneer work of the distinguished investigator, and will be under the superintendence of Dr. G. Harris Morris. The formal opening of the British Institute will take place early in the new year, when the public will have an opportunity of inspecting the provisions made for furthering the objects of the Institute. The occasion will also be marked by the issue of a fresh volume of *Transactions* of the Institute, the first number of which was recently reviewed in these columns.

A letter signed "D.Sc. (Lond.)," referring to a Science and Art Department's examination, appeared in Nature of September 8 (p. 435), and in it the writer gave the following as an instance of anomalies which occur in examinations:—"A student sat for the examination in May last in the advanced stage of practical organic chemistry. He was required to answer two questions, and to analyse two substances (unknown), as well as to find the halogen element present in an organic solid, and to determine the melting point of this solid. The written questions were correctly answered, the analyses were correctly done, the halogen was correctly determined, and the melting point of the substance was less than 1 per cent. too low. The description of the practical work was also fairly well done; but this student is returned as having failed, notwithstanding that there are two classes of success, first and second class. It would be interesting to know, in the face of this, the standard the examiners require for a first class success." Particulars which enabled the examiner to again look at the paper worked by the candidate referred to were afterwards furnished us by "D.Sc.," and the examiner now reports upon it as follows:—"The written questions were partly answered, and on this part of the examination the candidate would have been allowed to pass; but the analyses were both very badly done, and the answers quite wrong. For the detection of the halogen and for the melting point he received the full marks awarded to this part of the work." It will be seen from this that the suggestion of unfair marking made by our correspondent is entirely without foundation. With regard to the other point referred to in the letter, we are sorry to say that "D.Sc." would not furnish us with the name of the class in which he said that by the new rules the earnings this session will be reduced 75 per cent. We regret having unconsciously done an injustice to the Department of Science and Art by the publication of his letter.

The following interesting announcement appears on a page in the catalogue of Messrs. Johnson, Matthey, and Co., Hatton Garden, London:—"In furtherance of scientific research, Professors and recognised scientific investigators will with pleasure be supplied with metals of the platinum group, in moderate quantities, and for periods to be arranged, free of charge, on condition that the precious metals are ultimately returned (in any form), and that the results of the investigations are furnished."

A plea for a national Antarctic expedition is made by Sir Clements Markham in a pamphlet published by the Royal Geographical Society. As was pointed out last week, in referring to the special Antarctic number of the *Scottish Geographical Magazine*, the only hope of maintaining the credit of our country in the work of exploration lies in an appeal to the patriotic feelings of those who possess the power which wealth supplies of providing the funds. The Council of the Royal Geographical Society generously offers to head the list with a subscription of 5000*l*. This example should be the means of showing that geographers are willing to help geographical discovery so far as their funds permit; and it also expresses their views upon the necessity of Antarctic exploration in an unmistakable form. It is earnestly to be hoped that the desire to enable the nation to retain its position as the first in exploration and discovery will inspire our wealthy countrymen to provide an amount equal to at least ten such subscriptions as that of the Royal Geographical Society. If this sum is not forthcoming, the prestige and credit won by former explorations will have to be resigned, and other nations will take our place as leaders in the work of geographical discovery.

An attendant at the Pathological Institute attached to the Vienna General Hospital, died on October 18 from bubonic plague. It is believed that the man became infected by handling cultures of the plague bacillus. His duties were to look after the animals kept for the bacteriological study of the plague, but how he became infected has not yet been discovered. There is no doubt that the case was one of plague, an examination of the sputum having revealed the presence of the plague bacillus. Since the assistant's death, Dr. Müller, who attended him, has also died from the plague, and a nurse infected by it is described as in a condition which leaves little hope of recovery.

The *Times* correspondent at Copenhagen announces that an international monument in honour of the famous Danish physician, Dr. Hans Wilhelm Meyer, who died three years ago, was unveiled in that city on Tuesday. Dr. Meyer was the discoverer of what are called adenoid growths. He found that the space between the nose and the throat, which ordinarily is an open cavity, is in certain persons suffering from deafness more or less closed by a large, soft mass. He found that this mass in numerous cases causes lifelong deafness, obstructs nasal respiration, and greatly retards the mental development of the patients, who are generally young. He succeeded in removing these growths by operation. Shortly before his death his discovery was universally recognised as being of the utmost importance. The monument has been erected by international subscriptions, committees having been formed in almost every civilised country, and not only members of the medical profession but also grateful patients contributing. The memorial is a bronze bust of more than life-size, resting upon a granite base. In front stands a figure of Hygeia, beneath which is inscribed the name "Hans Wilhelm Meyer." On the other side may be read the names of all the countries which have contributed to the memorial. The monument is the work of the Danish artists Bissen and Runeberg.

The death is announced of Dr. Eugenio Bettoni, director of the Fisheries Station at Brescia, at the age of fifty-three years.

Sir John Murray, F.R.S., has resigned the post of scientific member of the Fishery Board for Scotland, to which he was appointed by the Crown in January 1896.

The opening meeting of the new session of the Institution of Electrical Engineers will be held on Thursday, November 10, when a paper will be read by Prof. Silvanus P. Thompson on "Rotatory Transformers." The annual dinner will take place in the Grand Hall of the Hôtel Cecil on Wednesday, December 7.

A dispatch describing a series of attempts to climb Mount Sorata, or Illampu, in the Eastern cordillera of the Andes of Bolivia, has been sent to the *Daily Chronicle* by Sir Martin Conway. The highest point attained was well over 23,000 feet, and probably as much as 24,000 feet, but the summit was not reached.

We learn from *Science* that the U.S. Fish Commissioner has presented to Cornell University a collection of fresh-water and salt-water fishes, numbering between four and five hundred thousand specimens. The collection, in so far as it consists of living fishes, will be of great value not only to the zoological department, but also to the College of Forestry, in which a course in pisciculture and venery is to be introduced. It is understood that duplicates of this collection are to be presented to other institutions.

The existence of a number of species of silk-spinning worms in the Sewaliks and Himalayas, and the extensive use of silk as a material for dress, make the question of sericulture in India a matter of great interest. The *Pioneer Mail* of October 7 prints an account of three different sets of experiments in progress during the current year in the North-Western Provinces to establish silkworm rearing—one in the plains, another in the Dun Valley, and the third on the Himalayas. All were carried out under different conditions of temperature, and all achieved a degree of success that is encouraging.

The *Athenæum* announces that Don Francisco Coello de Portugal, who occupied in Spain the foremost rank as a geographer, has just died at Madrid at an advanced age. He had originally embraced the military career, and after having quitted the army in 1865 with the rank of colonel, he devoted himself chiefly to the science of geography, and published an excellent "Atlas of Spain and its Colonies," which will now, of course, be out of date. He was president of the Geographical Society of Madrid, and frequently represented Spain as delegate at scientific congresses.

A correspondent sends us a letter he has received from Ballyarthur, in the Vale of Ovoca, County Wicklow, with reference to a curious object observed in the sky on Wednesday evening, October 19, about six o'clock. The object was visible in the south-west, and looked like a three-quarter moon. It was moving gradually from south-east to north-west, and appeared to the observer to go down behind the Croghan Kinsella mountain. It was of a golden colour, and was seen for four or five minutes. The suggestion is made that the object was a meteor, but it may have been merely an escaped balloon. Perhaps it was seen by other observers in Wicklow or Wexford, who could give further particulars concerning it.

We learn from the *British Medical Journal* that it has been determined to appoint a special commission, to consist of five members, to conduct investigations regarding plague in India. The specific duty of the commission will be to inquire into the origin of the various outbreaks of plague, and the manner in which the disease is spread. An official statement also is required as to the efficacy of the serum treatment and the prevention of plague by means of inoculation. So far as the nominations to serve on this commission have been made public two Indian civilians, Messrs. J. R. Sewwett and A. Cumine, have already been appointed; but it is understood that three other members will be nominated by the Secretary of State for India, to proceed from this country, of whom one will act as chairman, while two will be experts.

Particulars concerning the expedition which will leave England in the course of the next few days for the purpose of visiting the almost unexplored island of Sokotra, situated about 150 miles east-north-east of Cape Guardafui, are given in Tuesday's *Times*. The party will consist of Mr. W. R. Ogilvie Grant, of the department of zoology in the British Museum; Dr. H. O. Forbes, the director of the Liverpool Museums; and Mr. Cutmore, taxidermist attached to the latter institution. The Royal Society, the Royal Geographical Society, and the British Association have provided part of the funds for the undertaking. The expedition will sail for Aden, proceeding thence to Sokotra by the Indian Marine guardship *Elphinstone*, which, in compliance with a request made by the authorities of the British Museum, has been kindly placed at the disposal of Mr. Grant and Dr. Forbes for the purpose of conveying them to the island and back to Aden on the termination of their stay. The main object of the expedition is to investigate thoroughly the fauna of the place and make large and complete collections in every branch of zoology.

The space to be devoted to the various sections of the Paris Exposition of 1900 has been arranged by the Commissioner-General as follows:—

| | Sq. ft. |
|---|---|
| Agricultural and food products | 20,000 |
| Army and navy | 3,300 |
| Chemical industries | 5,160 |
| Education, instruments, practical sciences, and arts | 11,470 |
| Fine arts | (not yet known) |
| Forestry, hunting and fisheries | 3,300 |
| Heating apparatus | 4,500 |
| Horticulture | (not yet known) |
| Machinery and electricity | 50,000 |
| Manufactures | 25,000 |
| Mines and mining | 7,700 |
| Textiles | 13,000 |
| Transportation and civil engineering | 20,000 |
| Total | 163,430 |

It is of great importance that those who are engaged in archæological research should be properly trained; therefore the British School at Athens by supplying the needful training is doing very valuable work. This was the text of the remarks made by the Bishop of London at the annual meeting of the

School, held on Thursday last. Referring to the excavations at the prehistoric capital of the island of Melos, discovered at Phylákopi, the director of the School, Mr. Hogarth, said that the School began to excavate it in 1896, little suspecting the great importance of the site. It was proving a second Hissarlik, an undisturbed repository of the products of the primitive civilisation of the Ægean from the "Mycenæan" age back to the Neolithic period. Much had been eaten away by the sea, but what was left was equal in extent to Tiryns. Mr. Hogarth picked up the work where Mr. Cecil Smith left it, and after determining the limits of the city on south and east, and digging test trenches to obtain a relative chronology of the potsherds, in which the site was marvellously rich, proceeded to open out the great barrack-like structures on the north and west. Here were remains of three settlements, divided by layers of débris, the middle and lower ones being singularly well preserved. The best rooms were on the higher ground to the west. The blocks were divided by narrow lanes with covered drains down the centre. The depth varied from seven metres to three metres. In the two lower settlements was found a mass of pottery, and almost as many vessels, complete or little broken, as in a large cemetery. These covered the whole development of the potters' art up to the fine Mycenæan work. Fabrics, shapes, and decoration were in many cases new. The most notable vase was pipe-shaped and decorated with four scantily-clad figures, bearing fish in either hand. This was about the most interesting primitive Ægean vase in existence. In several rooms painted fresco was found, in one case white and gold lilies on a red ground; in another a beautiful scene of the sea with flying fish and marine growths, and a man working a casting net. Of the primitive symbols now attracting so much attention on Cretan stones, &c., over fifty distinct examples were found scratched in clay before baking. Many fine steatite vases, clay lamps (unknown previously on early sites), and other stone utensils and implements came to light. There was a little bronze and bone, but no gold or silver.

REFERRING to the collection of mollusca in the Madras Government Museum, Mr. Edgar Thurston states, in his report for the year 1897-98, that a right-handed chank shell (*Turbinella rapa*), that is, a chank shell with its spiral opening to the right, was acquired in the Madras bazaar for the small sum of Rs. 150. A shell of this nature, found off the coast of Ceylon at Jaffna in 1887, was sold for Rs. 700. Such a chank is said to have been sometimes priced at a lakh of rupees (Rs. 1,00,000); and, writing in 1813, Milburn says ("Oriental Commerce") that a chank opening to the right hand is highly valued, and always sells for its weight in gold. Further, Baldæus, writing towards the close of the seventeenth century, narrates the legend that Garroude (Garuda) flew in all haste to Brahma, and brought to Krishna the chianko or kink-horn twisted to the right.

IT has been suggested by several people that the recent wreck of the *Mohegan* on the Manacles Rocks was due to a local deviation of the compass of the ship. In a letter to the *Times*, Prof. A. W. Rücker points out that a disturbance of a magnitude sufficient to have caused the disaster is most improbable. He remarks:—"During the magnetic survey of the United Kingdom, carried out by Dr. Thorpe and myself, observations were made at twelve places in Cornwall. Of these Lizard Down, Porthallow, and Falmouth were the nearest to the scene of the disaster, and at all of them the deviation of the compass from the normal magnetic meridian was extremely small. The largest disturbance of this kind which was observed in Cornwall occurred at St. Levan, near the Land's End, and only amounted to eleven minutes of arc, or less than two-tenths of a degree. The largest disturbance of the dipping needle was at Mullion, and was only fourteen minutes."

MR. F. H. GLEW, of 156 Clapham Road, sends us a photograph of an oscillatory electric discharge which was taken in daylight. The photographic shutter was connected with a coherer and relay, so that the first component of the discharge operated the shutter and allowed an image of the succeeding components of the discharge to be caught. Mr. Glew suggests that a similar arrangement might be employed for photographing lightning in the day-time. Mr. Glew also sends us a photograph of a flash of lightning taken with a vibrating lens. From the multiple image produced, and the rate of vibration, he calculates that the total duration of the flash in question, which appears to have been of a triple compound nature, was one-nineteenth of a second, or less than one-half of a single vibration of the lens. He has also used a rotating photographic plate, but finds the vibrating lens to be more satisfactory.

TWO papers on the circulation of the residual gaseous matter in Crookes' tubes, read before the Physical Society by Mr. A. A. C. Swinton, appear in the October number of the *Philosophical Magazine*. The experiments described lead to the conclusion that "at very high exhaustions there exists a molecular or atomic stream from anode to kathode, which carries a positive charge and travels at considerable velocity outside of the opposite kathode-stream."

WHEN the poles of an arbitrary plane are taken, with respect to the conics of a Steiner's surface, it is known that another Steiner's surface is obtained. Prof. Brambilla, writing in the *Rendiconto* of the Naples Academy, iv. 7, has extended the same property to the two non-ruled surfaces of the fourth order, one in four-dimensional and the other in five-dimensional space, which, when projected from one or two arbitrary centres on our space, produce Steiner's surfaces.

THE phenomenon of equilibrium in mixtures of isomorphous substances has been studied by Küster since 1890. A further investigation, leading to somewhat different conclusions, is given by Signor Giuseppe Bruni in the *Atti dei Lincei*, vii. 5, who finds that the curve of congealment of a mixture deviates to a marked extent from the straight line obtained by Küster, and that serious objections can be raised against the latter's views on the coefficient of distribution. Signor Bruni, however, concludes that, in respect both of the variations in the temperature of congealment and of the distribution of the solid and liquid phases, isomorphous mixtures always follow completely the general theory of Van t' Hoff on solid solutions.

A SOMEWHAT novel line of investigation, which bids fair to throw light on certain problems of petrology, has been taken up by Prof. R. V. Matteucci in connection with the last eruption of Vesuvius. The method consists in artificially cooling portions of flowing lava, so as to partially or totally check the crystallisation of the substances contained in their magma; and in this way it appears possible to obtain information as to the exact stages at which different minerals separate out from the first exit of the lava up to its final consolidation.

THE coasts of Japan are peculiarly liable to incursions from spring tides, of which the one occurring on June 15, 1896, in the course of eighteen minutes swept away 9381 houses and 6930 boats, killing 21,909 people and wounding 4398. To minimise the damage done to life and property by such inroads, protective forests have been planted at various places along the littoral. Dr. Seiroku Honda, Professor of Forestry in the University of Tokyo, writing in the *Bulletin* of the Imperial University College of Agriculture, gives an interesting account of these protective forests, and advocates their further extension to parts as yet unprotected. The action of these forests is threefold: they check the force of the tidal wave; they delay its advance, giving more time for saving the lives of inhabitants living behind the forest; and, lastly, they prevent houses and property from being washed away into the sea. Dr. Honda gives a list of the trees which are best adapted for this purpose.—In the same number of the *Bulletin* Dr. Diro Kitao, by the use of the equations of elasticity, has endeavoured to reduce the calculation of the shrinkage and swelling of wood to mathematical principles.

THE interpretation of death among the lower organisms is ably dealt with by Signor Angelo Andres in the *Rendiconto del R. Istituto Lombardo*, xxxi. 13. The author, after pointing out the objections to Weismann's views, starts with the conception that living organic matter does not in itself possess any reason for dying, and that, on the other hand, this reason pertains to single individuals; in other words, that living matter remains in itself immortal, and that only the modality of the individual dies. An examination of the lowest forms of algæ leads Signor Andres to the conclusion that the first indications of true death occur in the Diatomaceæ, in which the process of subdivision leads to a gradual diminution in the size of the frustules, as also in the Volvocinæ, where the phenomenon of death is still more marked. The cause of death, it would appear, is to be sought in the differentiation which, by the specialisation of structure and function, leads to the perfectioning, both anatomically and physiologically, of different species.

THE *Engineering Magazine* for September contains an article on the bacterial process of sewage purification, which is at the present time attracting a considerable amount of attention; and is under investigation by a Commission appointed by the Local Government Board. The purification of sewage is a process of destruction of the organic matter by means of bacteria, and finally of the bacteria themselves from inanition. These bacteria are divided into two classes—ærobic, which require oxygen for their growth, and do their work best when sewage is exposed to the air; and the anærobic, which do not require oxygen for their growth, and do their work best in the dark. The former process of purification has been in use in this country for some years, having been first adopted by Mr. Bailey Denton in the system known as intermittent filtration through beds of earth. The latter system is of more recent origin, and has only been prominently before the public since the septic system was adopted by Mr. Cameron, the Borough Surveyor at Exeter. Besides the works at Exeter, others are in operation at Sutton and Yeovil, all of which are described and illustrated in the article by Mr. Rudolph Hering.

A SHORT account of the various steps that have been taken in the acclimatisation of trout in South Africa is given by Mr. J. D. F. Gilchrist in his report of 1897 on the sea and inland fisheries of Cape Colony. So far back as 1884 Mr. Lachlan Maclean began the experiment of trout acclimatisation in the Colony by importing 20,000 ova; and in spite of various difficulties and failures he proved its practicability. His experiments showed that the rearing of trout from imported eggs was feasible, and it is due to his success that the rivers are now being gradually stocked with valuable fish. The Cape Government took up the subject in 1890, and about a year later a hundred thousand trout ova were procured from Guildford, Surrey, a large number of which were hatched successfully. The work has since been carried on by the Cape Agricultural Department, and has undergone a steady progressive development. The trout turned into the rivers thrive exceedingly well, and many of them attain a large size.

AMONG other matters mentioned in the Report of the Marine Biologist referred to in the foregoing note, are trawling experiments performed with a view to introduce new and improved methods of fishing. It has been demonstrated that there is an excellent trawling ground rivalling the North Sea in productiveness, within easy reach of Cape Town. A satisfactory feature of the work is the discovery that soles occur abundantly on the fishing grounds, and can be readily got by trawling. As a scientific result of the experiments it may be mentioned that six different kinds of flat fish, one of which is new to science, have been discovered. The subject of temperatures, currents, &c., of the sea in relation to the scientific side of fishing investigations is being taken up; and Mr. Gilchrist announces that arrangements have been made at about a dozen different places for physical observations of this kind to be carried on.

THE latest number of *Janus*, a journal which is open to contributors from all parts of the world in divers tongues on subjects relating to the history of medicine and medical geography, contains an interesting and well-written article on medical archæology dealing with the significance of the plant Silphium and its therapeutic value amongst the ancients. Dr. Kronfeld of Vienna is the writer, and he has illustrated his article by a reproduction of the well-known dish of Arkesilas, now in the "Cabinet des Médailles" of the National Library in Paris. Graphic and very realistic scenes are depicted indicating the immense store set by the ancient Greeks upon this remarkable plant, whose habitat was located in Cyrene. Its applications seem to have been as diverse as they were valuable, and amongst its numerous uses we find it treasured as furnishing the earliest and most delicate of vegetables, also spice, whilst its therapeutic reputation was almost as universal as that claimed for some of our modern nostrums by their inventors! Silphium has long since disappeared from Cyrene, but Falconer has found in the northern parts of Cashmere a plant which is regarded as bein very closely allied to its historic predecessor.

THE Geological Survey has just published a brief Supplement to the Memoir on the Geology of Flint, Mold, and Ruthin, by Mr. A. Strahan. This Supplement contains records of borings put down in the reclaimed portion of the estuary of the Dee; and these are of importance as proving the presence of Upper Coal-measures, which do not appear at the surface and were not previously known to exist in Flintshire or West Cheshire. In this region the Middle Coal-measures are the productive strata, and the new information shows that the Upper Coal-measures may underlie much or all of the Cheshire Trials, and would consequently have to be penetrated in winning the coal. The price of the Supplement is *2d.*

IN the *Journal of Applied Microscopy* (Bausch and Lomb) for August is a description of the Histological Laboratory of the Harvard University at Washington, D.C.

WE have received part 4 of vol. xxv. of Engler's *Botanische Jahrbücher*, occupied chiefly by a continuation of Pfitzer's review of the classification of Orchideæ, and the commencement of a systematic paper on the Monimiaceæ by J. R. Perkins.

WE have received the Reports of the Botanical Exchange Club for 1896 and 1897, both bearing the date 1898, the latter edited by Mr. G. Claridge Druce. They are both occupied by a record of new British localities, and by remarks on "critical" British species. The discovery is recorded of a new British sedge, *Carex chordorhiza.*

IN the *Revue Générale des Sciences* for September, M. L. Mangin has a short article on the sexuality of Fungi, in which he shows the remarkable advance that has been made during recent years in the discovery of sexual organs in various classes of Fungi. Especial reference is made to the researches of Harper on the Ascomycetes, of Dangeard on the same class of Fungi, of Sappin-Trouffy on the Uredineæ, and of Thaxter on the Laboulbeniaceæ.

The *Journal* of the Royal Microscopical Society for October contains a continuation of Mr. F. W. Millett's report on the recent Foraminifera of the Malay Archipelago collected by Mr. A. Durrand, and the usual summary of current researches in zoology, botany, and microscopy. Among the latter is an abstract of Mr. Lewis Wright's important paper on microscopic images and vision.

The *Biologisches Centralblatt* continues its useful summaries of recent researches in vegetable biology and physiology. In the numbers for September 15 and October 1 are contributions by Dr. R. Keller on the nyctitropic movements of leaves; on the mechanical action of rain on plants; on the flexibility of axial organs, and their capacity for resisting strain; on the comparative intensity of assimilation in plants in the Tropics and in Central Europe; and on the freezing of plants.

The *Naturwissenschaftliche Wochenschrift* for October 2 contains an interesting paper by F. Schlechert, being a report of observations on several points of vegetable physiology. He finds that the highest temperature in the interior of a stem (12 cm. depth from the surface) occurs about midnight, the lowest between noon and 3 p.m. While the chief factor which governs the temperature of the interior of a tree is the temperature of the surrounding air (about twelve hours earlier), it is also affected by the temperature of the soil, by that of the ascending current of water, and by the degree to which the twigs are exposed to direct sunlight.

The papers read at the third annual congress of the South-Eastern Union of Scientific Societies, held at Croydon in June, are printed in the *Report and Transactions* just published by Messrs. Taylor and Francis. Among the subjects of the papers are: The place of geology in education; entomology as a scientific pursuit; the nature of the soil in relation to the distribution of plants and animals; natural gas in Sussex; photography in relation to science; ideals for natural history societies, and how to attain them; and the folk-lore of amulets and charms. The volume thus contains information of interest and value to the members of all natural history societies.

From the United States we have received the following official publications:—"Principal Poisonous Plants of the United States," by V. K. Chesnut (U.S. Department of Agriculture *Bulletin* No. 20); a very useful publication, but the illustrations to which might be improved; we should hardly have recognised two of the imported European weeds, *Solanum nigrum* and *Conium maculatum*. Sixth Report on Kansas weeds (*Bulletin* No. 30, Experiment Station of the Kansas State Agricultural College, Manhattan); in this, and in other similar American publications, we note the introduction of the practice of noting graphically, by small maps, the distribution of the various species throughout the different States.

There is an interesting paper in the *American Naturalist* for September on some European museums, especially from a geological and mineralogical point of view, by Mr. E. O. Hovey. The small "Roemer Museum" at the quaint mediæval city of Hildesheim, near Hanover, is especially commended. Those visited by the writer in Russia presented no particular features of interest, the value of the magnificent collection of minerals in the Imperial Mining Institute at St. Petersburg being greatly marred by a faulty arrangement. Brief accounts are also given of the Natural History Museum at Berlin; the University Museum at Naples; the Museum of Natural History at the University of Geneva; the collection of minerals at the Jardin des Plantes, and the splendid collection of the École des Mines, Paris; the Museum of Practical Geology in Jermyn Street, London, and the collection at the British Museum; and the Woodwardian Museum, Cambridge.

Mr. W. S. Blatchley, State Geologist of Indiana, has issued his report (occupying 1197 pages) on the work accomplished by the department of geology and natural resources during the year 1897. A large proportion of the energies of the department were employed during that year in collecting data for a detailed report on the coal area of the State, shortly to be published. The present report includes papers of economic importance relating to petroleum, stone and clay resources of the State, the reports of the chiefs of the divisions pertaining to mines, natural gas and illuminating oils, and a long descriptive illustrated catalogue (666 pp.), by Mr. A. W. Butler, on the birds which have been observed within the State of Indiana, with an account of their habits.

A second English edition of Prof. von Meyer's well-known "History of Chemistry from the Earliest Times to the Present Day" has just been published by Messrs. Macmillan and Co., Ltd. The first English edition, translated from the original German edition by Dr. George McGowan, appeared in 1891. Dr. McGowan is alike responsible for the present volume, which is translated from the second German edition, with numerous additions and alterations. It is unnecessary to refer here to the value of the work, or to add to the account of it given in our review of the English version (Nature, vol. xliv. p. 289). It is sufficient to say that in the second edition, published in 1895, Prof. von Meyer made use of all the additional sources of information on subjects of historical chemistry which had become available since the original work was written. "Among these," Dr. McGowan remarks, "are the Berzelius-Liebig and the Liebig-Wöhler *Letters*, the *Letters* and *Journals* of Scheele, Priestley's *Letters*, and the autobiographical fragment which Liebig left behind him. In addition, there are the recently published and valuable historical researches of Berthelot on the chemistry of the early Middle Ages, and the writings of Ladenburg, Schorlemmer, Thorpe, Grimaux, and others on the development of chemistry within certain definite periods, or on the life and work of particular chemists." These additions add to the value of what has always been a volume of great interest to students of chemistry, and we do not doubt that the new edition will be even more successful than the former one.

The additions to the Zoological Society's Gardens during the past week include a Siamang (*Hylobates syndactylus*) from Sumatra, a Thick-necked Terrapin (*Bella crassicollis*), a Siamese Terrapin (*Damonia subtrijuga*), a Burmese Tortoise (*Testudo elongata*) from Siam, an Amboina Box Tortoise (*Cyclemmys amboinensis*) from Borneo, presented by Mr. Stanley S. Flower; a Negro Tamarin (*Midas ursulus*) from Guiana, presented by Mr. E. F. Brooker; a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Miss Abchurch; a Pig-tailed Monkey (*Macacus nemestrinus*) from the East Indies, presented by Mr. R. O. Bell; a Common Paradoxure (*Paradoxurus niger*) from India, presented by Mr. H. A. Cottrell; two Capybaras (*Hydrochœrus capybara*) from South America, presented by Mr. Basil J. Freeland; a short-winged Weaver-bird (*Hyphantornis brachyptera*) from South Africa, presented by Miss Alice Heale; an Emu (*Dromæus novæ-hollandiæ*) from Australia, presented by Sir Cuthbert Peek, Bart.; a Suricate (*Suricata tetradactyla*) from South Africa, presented by Miss Peek; two Starred Tortoises (*Testudo elegans*) from India, presented by Mr. J. Freeman; a Smooth-headed Capuchin (*Cebus monachus*) from South-east Brazil, a Rabbit-eared Bandicoot (*Peragale lagotis*) from Western Australia, a Vulpine Phalanger (*Trichosaurus vulpecula*) from Australia, deposited; six Mute Swans (*Cygnus olor*) from Holland, purchased; two Rosy-faced Love-birds (*Agapornis roseicollis*), bred in the Menagerie.